

What is claimed is:

1. A method for cleaning a head adapted to releasably hold a wafer, comprising:  
providing a cleaning surface;  
moving the cleaning surface into contact with the head; and  
removing contaminants from the head.
2. The method of 1, wherein moving the cleaning surface into contact with the head includes moving the cleaning surface into vertical alignment with the head.
3. The method of 2, wherein moving the cleaning surface into contact with the head includes moving the cleaning surface downwardly onto the head.
4. The method of claim 3, wherein removing contaminants from the head includes rotating the cleaning surface on the head.
5. The method of claim 3, wherein removing contaminants from the head includes rotating the head on the cleaning surface.
6. The method of claim 5, wherein rotating the head includes rotating the head at a variable rpm.
7. The method of claim 5, wherein rotating the head includes rotating the head at at least about 5,000 rpm.
8. The method of claim 5, wherein rotating the head includes rotating the head at about 5,000 rpm.

9. The method of claim 6, wherein rotating the head includes rotating the head at less than about 10,000 rpm.
10. A method for cleaning a head adapted to releasably hold a wafer, comprising:
  - providing a cleaning surface;
  - removing a wafer from the head;
  - thereafter, moving the cleaning surface into contact with the head; and
  - removing contaminants from the head.
11. The method of 10, wherein moving the cleaning surface into contact with the head includes moving the cleaning surface into vertical alignment with the head.
12. The method of 11, wherein moving the cleaning surface into contact with the head includes moving the cleaning surface downwardly onto the head.
13. The method of claim 10, wherein removing contaminants from the head includes rotating the cleaning surface on the head.
14. The method of claim 10, wherein removing contaminants from the head includes rotating the head on the cleaning surface.
15. Machine executable code stored on machine readable media, wherein the code comprises:
  - providing a cleaning surface;
  - moving the cleaning surface into contact with the head; and
  - removing contaminants from the head.

16. The code of 15, wherein moving the cleaning surface into contact with the head includes moving the cleaning surface into vertical alignment with the head.
17. The code of 16, wherein moving the cleaning surface into contact with the head includes moving the cleaning surface downwardly onto the head.
18. The code of claim 15, wherein removing contaminants from the head includes rotating the cleaning surface on the head.
19. The code of claim 15, wherein removing contaminants from the head includes rotating the head on the cleaning surface.
20. The code of claim 15, wherein moving the cleaning surface into contact with the head is delayed until after removing a wafer from the head.
21. The code of claim 20, wherein the delay is at least 5 seconds.
22. A method of wafer processing, comprising:
  - placing a wafer on a head of a spindle chuck;
  - performing a fabrication process on the wafer;
  - removing the wafer from the head;
  - automatically cleaning contaminants from the head.
23. The method of claim 22, wherein the recited steps are repeated.
24. The method of claim 22, wherein placing a wafer, performing a fabrication process, and removing a wafer are performed a plurality of times before automatically cleaning contaminants from the head.

25. The method of claim 22, wherein placing a wafer, performing a fabrication process, and removing a wafer are performed on a batch of wafers before automatically cleaning contaminants from the head.
26. A method of wafer processing, comprising:  
placing a wafer on a head of a spindle chuck;  
performing a fabrication process on the wafer;  
removing the wafer from the head;  
automatically cleaning contaminants from the head; and  
returning the wafer to head.
27. The method of claim 26, wherein the recited steps are repeated.
28. The method of claim 26, wherein removing the wafer from the head, automatically cleaning contaminants from the head, and returning the wafer to head are performed after a plurality of wafers are subjected to the fabrication process.
29. The method of claim 27, wherein removing the wafer from the head, automatically cleaning contaminants from the head, and returning the wafer to head are performed after a batch of wafers are subjected to the fabrication process.
30. A method of wafer processing, comprising:  
performing a fabrication process on a batch of wafers, wherein performing the fabrication process includes holding a last wafer in the batch on a spindle chuck and performing a fabrication process on the last wafer;  
removing the last wafer from the spindle chuck; and  
automatically cleaning the spindle chuck.

31. The method of claim 30, further comprising setting a first wafer in a subsequent batch of wafers on the spindle chuck after both removing the last wafer from the spindle chuck and automatically cleaning engaging the spindle chuck with a cleaning head.
32. The method of claim 31, wherein the performing a fabrication process and automatically cleaning the spindle chuck are repeated for the subsequent batch.
33. A method for cleaning a support adapted to releasably hold a wafer, comprising:  
providing a cleaning surface;  
moving the cleaning surface into contact with the support; and  
removing contaminants from the support.
34. The method of 33, wherein moving the cleaning surface into contact with the support includes moving the cleaning surface into vertical alignment with the support.
35. The method of claim 33, wherein moving the cleaning surface into contact with the support includes moving the cleaning surface into coaxial alignment with the support.
36. The method of claim 33, wherein moving the cleaning surface into contact with the support includes moving the cleaning surface downwardly onto the support.
37. The method of claim 33, wherein the support has wafer supporting upper surface.
38. The method of claim 37, wherein the surface is a metal surface.
39. The method of claim 37, wherein the surface is a steel surface.

40. The method of claim 37, wherein the surface is a plastic.
41. The method of claim 37, wherein the surface includes polytetrafluoroethylene.
42. The method of claim 37, wherein the surface is homopolymer acetal.
43. A method for cleaning a support adapted to releasably hold a wafer, comprising:  
providing a cleaning surface;  
moving the cleaning surface into contact with the support; and  
rotating the support on the cleaning surface.
44. The method of claim 43, wherein rotating the support includes rotating the support at a variable rpm.
45. The method of claim 43, wherein rotating the support includes rotating the support at at least about 5,000 rpm.
46. The method of claim 43, wherein rotating the support includes rotating the support at about 5,000 rpm.
47. The method of claim 43, wherein rotating the support includes rotating the support at less than about 10,000 rpm.
48. The method of claim 43, wherein rotating the support includes activating a spin motor.
49. A method for cleaning a support adapted to releasably hold a wafer, comprising:  
providing a cleaning surface;

moving the cleaning surface into contact with the support; and  
rotating the cleaning surface on the support.

50. The method of claim 49, wherein rotating the cleaning surface includes rotating the support at a variable rpm.

51. The method of claim 49, wherein rotating the cleaning surface includes rotating the support at at least about 5,000 rpm.

52. The method of claim 49, wherein rotating the cleaning surface includes rotating the support at about 5,000 rpm.

53. The method of claim 49, wherein rotating the cleaning surface includes rotating the support at less than about 10,000 rpm.

54. The method of claim 49, wherein rotating the cleaning surface includes activating a spin motor.

55. A method for cleaning a support adapted to releasably hold a wafer, comprising:  
providing a cleaning surface;  
removing a wafer from the support;  
thereafter, moving the cleaning surface into contact with the support; and  
removing contaminants from the support.

56. The method of 55, wherein moving the cleaning surface into contact with the support includes moving the cleaning surface into vertical alignment with the support.

57. The method of 56, wherein moving the cleaning surface into contact with the support includes moving the cleaning surface downwardly onto the support.

58. The method of claim 55, wherein removing contaminants from the support includes rotating the cleaning surface on the support.

59. The method of claim 55, wherein removing contaminants from the support includes rotating the support on the cleaning surface.

60. The method of claim 55, wherein removing contaminants from the support includes activating a vacuum source.

61. The method of claim 60, wherein activating a vacuum source includes activating a vacuum source when the cleaning surface contacts the support.

62. The method of claim 60, wherein activating a vacuum source includes activating a vacuum source when the support contacts the cleaning surface.

63. A method for cleaning a support adapted to releasably hold a wafer, comprising:  
providing a cleaning surface;  
removing a wafer from the support;  
thereafter, positioning the cleaning surface adjacent the support; and  
activating a vacuum source.

64. The method of claim 63, wherein the activating a vacuum source further comprises generating a vacuum when the cleaning surface is adjacent the support.



65. The method of claim 63, wherein the positioning the cleaning surface includes: positioning the cleaning surface a set distance from the support; and generating a vacuum when the cleaning surface is the set distance from the support.

66. The method of claim 65, wherein the set distance is about 0.2 microns.

67. The method of claim 65, wherein the set distance is less than about 0.2 microns.

68. The method of claim 63, wherein the activating a vacuum source includes generating a vacuum when the cleaning surface is vertically aligned with the support.

69. Machine executable code stored on machine readable media, wherein the code comprises:

- providing a cleaning surface;
- moving the cleaning surface into contact with the support; and
- removing contaminants from the support.

70. The code of 69, wherein moving the cleaning surface into contact with the support includes moving the cleaning surface into vertical alignment with the support.

71. The code of 70, wherein moving the cleaning surface into contact with the support includes moving the cleaning surface downwardly onto the support.

72. The code of claim 69, wherein removing contaminants from the support includes rotating the cleaning surface on the support.

73. The code of claim 69, wherein removing contaminants from the support includes rotating the support on the cleaning surface.

74. The code of claim 69, wherein removing contaminants from the support includes activating a vacuum source.
75. The code of claim 69, wherein the activating a vacuum source includes activating a vacuum source when the support contacts the cleaning surface.
76. The code of claim 69, wherein the activating a vacuum source includes activating a vacuum source when the cleaning surface contacts the support.
77. The code of claim 69, wherein the activating a vacuum source includes generating a vacuum when the cleaning surface is a set distance from the head.
78. The code of claim 77, wherein the set distance is about 0.2 microns.
79. The code of claim 77, wherein the set distance is less than about 0.2 microns.
80. The code of claim 69, wherein the activating a vacuum source includes generating a vacuum when the cleaning surface is vertically aligned with the support.
81. The code of claim 69, wherein moving the cleaning surface into contact with the support is delayed until after removing a wafer from the support.
82. The code of claim 74, wherein the delay is at least 5 seconds.
83. A method of wafer processing, comprising:  
placing a wafer on a support of a spindle chuck;  
performing a fabrication process on the wafer;  
removing the wafer from the support;

automatically cleaning contaminants from the support.

84. The method of claim 83, wherein the recited steps are repeated.

85. The method of claim 83, wherein placing a wafer, performing a fabrication process, and removing a wafer are performed a plurality of times before automatically cleaning contaminants from the support.

86. The method of claim 83, wherein placing a wafer, performing a fabrication process, and removing a wafer are performed on a batch of wafers before automatically cleaning contaminants from the support.

87. The method of claim 83, wherein placing a wafer, performing a fabrication process, and removing a wafer are performed on a plurality of batches of wafers before automatically cleaning contaminants from the support.

88. A method of wafer processing, comprising:  
placing a wafer on a support of a spindle chuck;  
performing a fabrication process on the wafer;  
removing the wafer from the support;  
automatically cleaning contaminants from the support; and  
returning the wafer to support.

89. The method of claim 88, wherein the recited steps are repeated.

90. The method of claim 88, wherein removing the wafer from the support, automatically cleaning contaminants from the support, and returning the wafer to support are performed after a plurality of wafers are subjected to the fabrication process.

91. The method of claim 88, wherein removing the wafer from the support, automatically cleaning contaminants from the support, and returning the wafer to support are performed after a batch of wafers are subjected to the fabrication process.

92. The method of claim 88, wherein removing the wafer from the support, automatically cleaning contaminants from the support, and returning the wafer to support are performed after a plurality of batches of wafers are subjected to the fabrication process.

93. A method of wafer processing, comprising:  
performing a fabrication process on a batch of wafers, wherein performing the fabrication process includes holding a last wafer in the batch on a spindle chuck and performing a fabrication process on the last wafer;  
removing the last wafer from the spindle chuck; and  
automatically cleaning the spindle chuck.

94. The method of claim 93, further comprising setting a first wafer in a subsequent batch of wafers on the spindle chuck after both removing the last wafer from the spindle chuck and automatically cleaning the spindle chuck.

95. The method of claim 93, wherein the performing a fabrication process and automatically cleaning the spindle chuck are repeated for the subsequent batch.

96. The method of claim 94, wherein the recited steps are repeated.

97. A method of wafer processing, comprising:  
performing a fabrication process on a plurality of batches of wafers, wherein performing the fabrication process includes holding a last wafer in the last batch of a

plurality of batches on a spindle chuck and performing a fabrication process on the last wafer;

removing the last wafer from the spindle chuck; and  
automatically cleaning the spindle chuck.

98. The method of claim 97, further comprising setting a first wafer in a subsequent plurality of batches of wafers on the spindle chuck after both removing the last wafer in the last batch of a plurality of batches from the spindle chuck and automatically cleaning the spindle chuck.

99. The method of claim 97, wherein the performing a fabrication process and automatically cleaning the spindle chuck are repeated for the subsequent batch.

100. The method of claim 98, wherein the recited steps are repeated.